

REMARKS/ARGUMENTS

The specification has been conformed to correspond to the preferred format for U.S. patent applications as required in the Office Action, and a Substitute Specification and Comparison Copy are submitted herewith.

Claims 18-32 are pending in this application. Claims 1-17 have been canceled.

Original claims 5, 7 and 11-17 were rejected under Section 112, second paragraph, for indefiniteness. These claims have been replaced with new claims 18-32, which are in full compliance with Section 112. In view thereof, applicant requests the retraction of the Section 112 rejection.

Most originally filed claims, and in particular independent original claim 1, were rejected over Bregman (5,093,890) for anticipation.

New independent claim 18 is limited amongst others to the following:

- a plurality of detector units in direct contact with each other
- first and second optical interfaces at the opposite sides [of each detector unit]
- respective optical interfaces of adjacent detector units being in direct areal contact
- a control circuit connected to the light transmitter and the light receiver
- in addition to the light transmitter and the light receiver, a sensor, or a part of a sensor, electrically connected to the control circuit

Bregman neither discloses nor suggests a system of separate detector units which has the above-summarized features required by claim 18.

Bregman has no optical interfaces arranged at optical sides of the respective detector units. The optical interfaces (56-56) referred to in the rejection of original claim 1 (now canceled) are optical black bodies which absorb all radiation, as is set forth in column 5, lines 53-55 of Bregman. Thus, even if Bregman were to disclose a system having multiple detector

units, Bregman would be incapable of enabling optical contact between the respective optical interfaces of such adjacent detector units.

Further, as indicated in the preceding paragraph, Bregman does not disclose a “plurality of detector units in direct contact with each other”. Bregman only discloses a single detector unit.

Bregman also does not disclose that the optical interfaces of the plurality of individual detector units are “in direct areal contact” with each other so that the optical connection paths of the individual detector units can form a common straight-line optical connection path of the system. To the contrary, Bregman discloses a single substrate for connecting several electronic devices at a common side surface of the substrate, as is shown in Fig. 1 of the patent. Bregman has no optical interfaces between adjacent detector units because Bregman has a single detector unit.

Bregman further does not disclose or in any manner suggest to interconnect detector units having sensors (for example, optoelectronic sensors) in addition to the light transmitter and the light receiver used for optical communications. The photosensitive device (relied on in the rejection of original claim 11 (now canceled)) referred to in column 2, line 57 of Bregman is a light receiver for optically communicating along the connection path. Even if Bregman’s light receiver were considered a sensor, Bregman does not disclose to provide a further sensor in addition to light emitters and receivers. Moreover, the “photosensitive” device referred to in column 2, lines 56-59 is not “electrically connected to the control circuit” as required by claim 18. Instead, “the optical signal is sensed by a photosensitive device, converted into electrical form, conducted electrically to an adjacent photoemitter and reconverted into electrical form”. (Column 2, lines 56-59).

For at least each of the reasons summarized in the preceding paragraphs, Bregman does not anticipate new independent claim 18.

The same applies to claims 19-33, which are directed to detailed features of the present invention and are patentable in their own right. These claims are further allowable over Bregman because they depend from allowable parent claim 18.

Thus, Bregman does not anticipate new claims 18-33.

Except for dependent claim 16, original claims 1-17 were additionally rejected for anticipation by Gipson (4,732,446).

Gipson relates to the field of electronic circuitry using printed circuit boards, but does not disclose or in any form suggest to arrange the detector units so that they are in direct contact with each other to form a compact and variable configuration optical bus. Lenses 36 of Gipson maintain a gap (reference numeral 14 in Fig. 1 points to the gap) between the circuit board 10 and the spacer block 34. For this reason alone, Gipson does not anticipate claim 18.

Gipson also does not disclose to provide a separate sensor for the detecting function of the unit in addition to the light transmitter and light receiver, as is recited in new independent claim 18. For this additional reason, Gipson does not anticipate claim 18.

In this context, applicant notes the reference in the Office Action to column 3, lines 67-68 as teaching to provide a sensor. This portion of Gipson refers to "a light focusing lens for light signal reception" which is focusing lens 36 shown for example in Figs. 1 and 2 and described as collecting and focusing "light signals from the fiber optic cables 16 and project these signals to the beam-splitter 32". (Column 6, lines 17-20 of Gipson). A sensor (for the detecting function of the detector unit) that is "electrically connected to the control circuit" as recited in claim 18 is nowhere mentioned in Gipson. For this further reason, Gipson does not anticipate claim 18.

Dependent claims 19-33 are directed to specific features of the present invention which are patentable in their own right. These claims are further allowable over Gipson because they depend from an allowable parent claim.

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PATENT


In view of the foregoing, applicant submits that claims 18-33 are not anticipated by either Bregman or Gipson.

CONCLUSION

This application is therefore in condition for allowance, and a corresponding notification at an early date is requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 576-0200.

Respectfully submitted,


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